

ZOOLOGY.—*A new genus and two new species of amphipods from Dry Tortugas, Florida.* CLARENCE R. SHOEMAKER, U. S. National Museum.

While collecting in the shallow water around Loggerhead Key, Dry Tortugas, in 1926, I discovered some small amphipods living among the coral sand and rocks. These proved to be a new genus, herein named *Hoplopheonoides*.

A number of amphipods found clinging to the exterior of a large spider crab taken by Dr. Waldo L. Schmitt south of Tortugas in August 1931, have been found to be a new symbiotic species of *Stenothoe*.

Family AMPHILOCHIDAE

Hoplopheonoides, n. gen.

Antennae short, subequal in length, flagella much shorter than their peduncles, accessory flagellum absent. Eye rather small. Mandible, molar well developed, cutting edge well toothed, spine row of several spines, palp absent. Maxilla 1, inner plate narrow and rather long, outer plate with 9–11 spines, palp 1-jointed. Maxilla 2 both plates narrow, inner the shorter. Maxillipeds normal. Coxal plates 1 and 2 rudimentary, 3 and 4 very large. Gnathopods 1 and 2 subchelate. Peraeopods 1 and 2 slender; peraeopods 3 and 4, slender with second joint linear; peraeopod 5, slender with second joint slightly expanded. Metasome segments normal. Urosome segment 1 long, with a high dorsal crest or lamella; urosome segments 2 and 3 very short and not coalesced. Uropods normal. Telson horizontal and entire.

Hoplopheonoides obesa, n. sp.

Fig. 1

Male.—Head as long as the first two body segments combined. The specimens examined having been in alcohol for a considerable time, the eyes were distorted so that their correct outline could not be determined. Antenna 1, peduncle rather stout, the joints decreasing consecutively in length; flagellum, a little longer than the last peduncular joint, the first joint being as long as the succeeding four joints combined. Antenna 2 a little shorter than 1 and comparatively slender; fourth joint a little longer than the fifth; flagellum as long as the fifth peduncular joint and composed of one long joint and four short joints. Upper lip bilobed. Mandible without palp; molar well developed; cutting edge rather broad and

well toothed; spine row of six or seven spines, as well as could be determined. Maxilla 1, inner plate narrow and rather long and apparently without setae; outer plate with nine or eleven spines; palp 1 jointed and bearing distal spines. Maxilla 2, both plates narrow and slightly curved, inner plate the shorter, and each bearing one apical seta. Maxilliped, inner plate longer than the outer and reaching forward nearly as far; outer plate reaching nearly to the end of the first joint of palp; second joint of palp short and widened distally; third joint with a narrow distal lobe reaching nearly to the middle of the fourth joint.

Gnathopods 1 and 2 slender. Gnathopod 1 shorter than 2; second joint not quite as long as the fifth and sixth combined; fifth joint with lower lobe produced forward beneath the sixth; sixth joint over twice as long as wide, palm transverse and rather deeply incised; seventh joint slender, curved, much longer than the palm and bearing minute spinules on inner margin. Gnathopod 2 second joint longer than the fifth and sixth combined; fifth joint a little longer than the sixth; sixth joint expanding slightly distally, palm transverse, concave, having a small tooth near the seventh joint, and defined by a tooth bearing two spines; seventh joint slender, strongly curved, extending a little beyond the palm and armed on the inner margin with five spinules and a small forward-pointing tooth. Peraeopods 1 and 2 slender, alike, and about equal in length. Peraeopods 3 and 4 alike, but 3 the shorter (Fig. 1a). Peraeopod 5 about as long as 3, second joint slightly expanded but not produced below. The fourth joint of all peraeopods slightly expanded and very little produced below. The seventh joint of all peraeopods slender and little curved.

Coxal plates 1 and 2 rudimentary and nearly hidden by the greatly expanded coxal plate 3. Coxal plate 4 greatly expanded and reaching back to the end of coxal plate 5.

The body of the animal viewed from above widens rather abruptly toward the fourth segment which is the widest and which bulges out laterally over the central coxal plates. The body then tapers off to the posterior end which is very narrow.

Metasome segments evenly rounding below and without angles. Urosome segment 1 about

three times longer than segments 2 and 3 combined, and expanded dorsally into a thin vertical crest or lamella which is produced behind over segments 2 and 3. Urosome segments 2 and 3 very short, and apparently not coalesced. Uropods decreasing in length consecutively, all biramous, the outer ramus being the shorter. The upper margins

of all rami bearing very fine, closely set spinules. Telson entire, with lateral margins converging to a narrow apex, and reaching nearly to the end of the peduncle of uropod 3. Length 2.5 mm.

Female.—Those specimens which are believed to be females are like the males, and are of the same size.

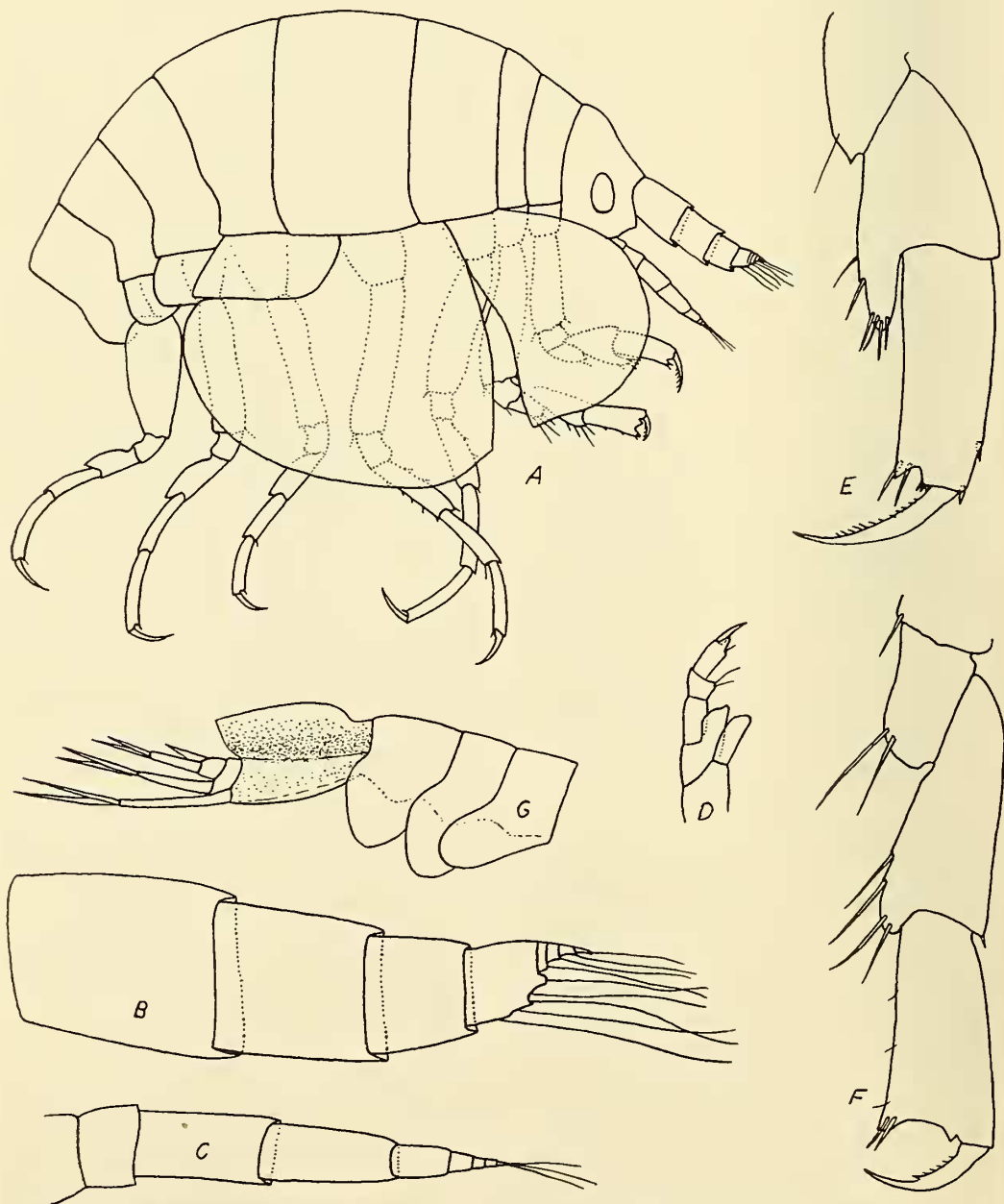


FIG. 1.—*Hoplopheonoides obesa*, n. gen. and n. sp., male: a, Front part of animal; b, antenna 1; c, antenna 2; d, left maxilliped; e, end of gnathopod 1; f, end of gnathopod 2; g, hind part of animal.

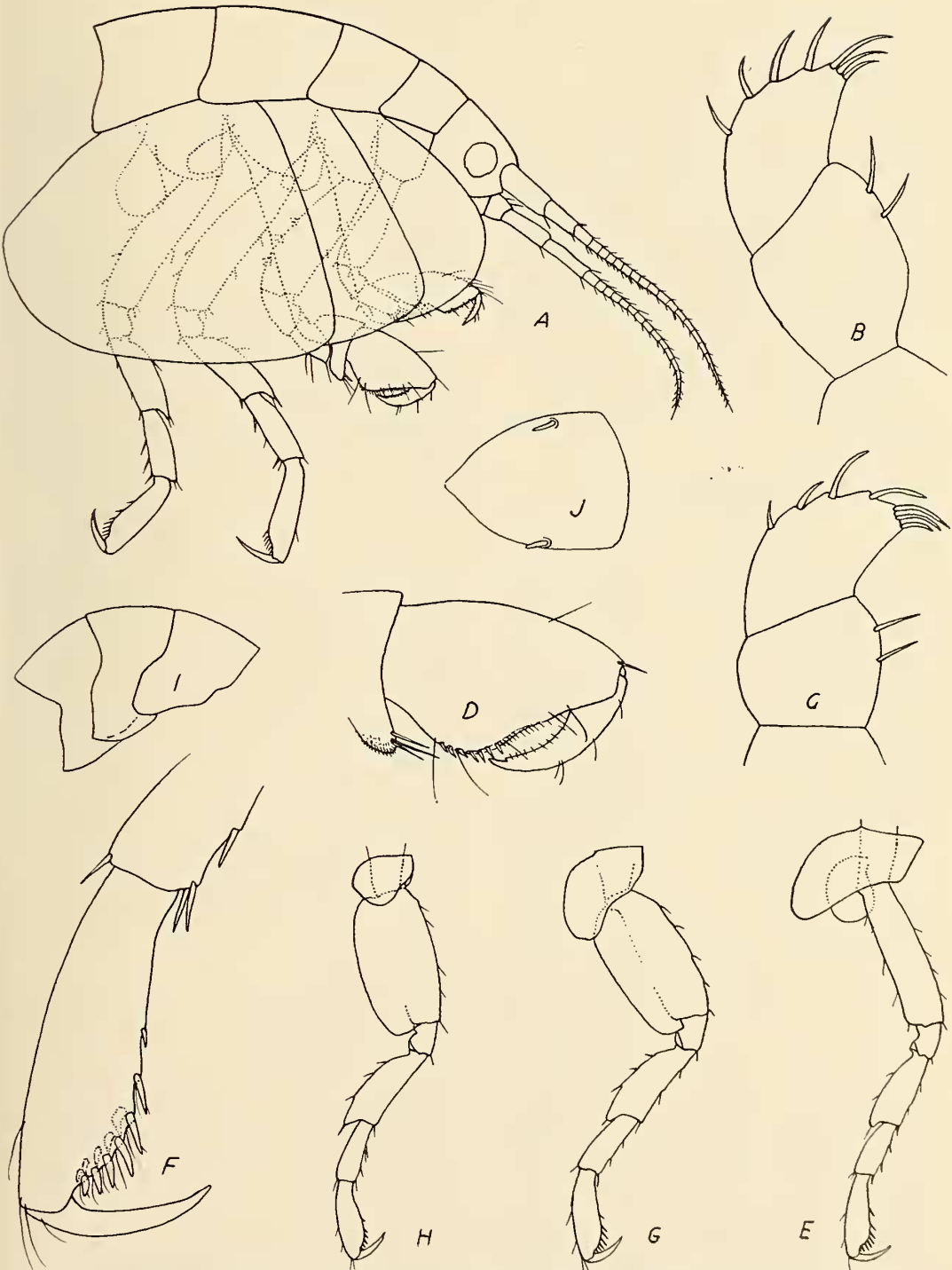


FIG. 2.—*Stenothoe symbiotica*, n. sp., male: a, Front part of animal; b, left maxilla 2; c, left maxilla 2 of another specimen; d, end of gnathopod 2; e, peracopod 3; f, end of peracopod 3 enlarged; g, peracopod 4; h, peracopod 5; i, metasome; j, telson.

Type.—A male, U. S. Nat. Mus. no. 96465, taken off the northern end of Loggerhead Key, Tortugas, Fla., in 15 feet of water, among sand, rocks, and marine growths, August 4, 1926, by Clarence R. Shoemaker.

Remarks.—This amphipod possesses characters belonging to several of the genera of the Amphilochidae, but the combination of these characters does not agree with that of any of the established genera of the family; it, therefore, appears necessary to create a new genus to receive it.

In life the animal is heavily mottled with greenish brown, yellowish green, and white, which give it an effective protective coloring for its native habitat amongst the coralline sands and rocks.

Specimens of this species were taken at a number of localities in the shallow water around Loggerhead Key.

***Stenothoe symbiotica*, n. sp.**

Fig. 2

Male.—Head with lateral lobe angular, but not acutely so. Eye rather large, nearly round, and light straw color in alcohol. Antenna 1 a little longer than 2, peduncular joints decreasing in length consecutively; flagellum nearly twice as long as the peduncle, and composed of about 19 or 20 joints. Antenna 2, fourth and fifth joints equal in length; flagellum longer than the peduncle, and composed of about 16 joints.

Right mandible, cutting edge broad, with five coarse teeth; accessory plate broad with very finely toothed edge, spine row of about 12 spines; palp absent, but indicated by a small, pointed, conical protuberance. Left mandible, cutting edge broad with more and much finer teeth in the right mandible; accessory plate broad with coarser teeth than in right plate. Maxilla 1, inner lobe small with one seta; outer lobe with six spine teeth; palp 2-jointed, the rounding distal margin and inner margin with spines. Maxilla 2, inner lobe absent; outer lobe bearing seven spines. Maxilliped, inner lobes very small, but separate; outer lobes entirely absent. Inner distal end of the third joint of the palp and the inner margin of the fourth joint bearing a brush of fine setae.

Gnathopods 1 and 2 very much alike, but 2 much the larger. Gnathopod 2, second joint not much expanded and as long as the fifth and sixth joints combined; fifth joint a little over half the

length of the sixth, and with prominent lower lobe; sixth joint about one-third longer than wide, widest in the middle; palm very oblique, slightly concave, provided throughout with very short spinules, without defining angle, and merging into the joint by a broadly rounding curve which bears a row of seven stout spines; seventh joint stout, curved and bearing a row of fine spinules on inner margin.

Peraeopods 1 and 2 slender and alike, fourth joint little expanded; sixth joint longer than fifth, expanded distally, and provided on the oblique distal end with two rows of stout spines, thus, with the opposing seventh joint, forming a subchelate clasping organ. Peraeopods 4 and 5, second joint moderately expanded, and the third to seventh joints like those of peraeopod 3. Coxal plates 2 and 4 broadly expanded and much deeper than their body segments. Metasome segment 1 evenly rounding below. Metasome segments 2 and 3 slightly produced below, but not sharply so.

Uropod 1 extending a little farther back than 2. Uropod 3 extending a little farther than 2 and about as far as 1. All uropods with very few small spines. Uropod 3, peduncle not quite as long as first joint of ramus, which is longer than the second joint and bears one or two central and several distal spines on upper margin. Telson not reaching the end of the peduncle of uropod 3, lateral margins each bearing one spinule and converging to the narrow rounding apex. Length about 7 mm.

Female.—The female is very much like the male. The antennae are a little shorter. The coxal plates are not so deep. The gnathopods are smaller and weaker, but structurally the same as those of the male. The female is a little smaller than the male.

Type.—A male, U. S. Nat. Mus. no. 96464, taken from the exterior of a large spider crab caught in 50 fathoms south of Loggerhead Key, Tortugas, Fla., August 7, 1931, by Waldo L. Schmitt. A considerable number of these amphipods were taken from the crab, where they were apparently living symbiotically. Several specimens were taken in an otter trawl at Tortugas. A single specimen was taken by the steamer *Albatross* December 12, 1919, in an otter trawl, in 62–110 fathoms, at station 20037 off South Carolina.